2.2 ENVIRONMENTAL CONTEXT

Northern Arizona is generally a rural region of the State with an abundance of environmentally sensitive areas and recreational amenities. This region is characterized by public lands, such as wilderness areas, national forests, national parks, and the highest point in the state, Mount Humprey's (12,633 feet).

Environmental elements compiled within the study area include geology and topography, hydrology, natural resources, cultural resources, air quality, and hazardous materials. The environmental elements outlined below are based on readily available information that has not been field verified. This information was obtained from various sources such as public agencies, municipalities, internet, and available databases based on Geographic Information Systems (GIS). On-site "ground truthing" and field investigation are recommended at the Corridor Improvement Study and Design Concept Report levels to verify these environmental considerations.

2.2.1 Geology and Topography

Coconino-Yavapai Focus Area

The Coconino-Yavapai Focus Area includes the northern two-thirds of Yavapai County and most of Coconino County, Arizona. This area covers almost 10% of the State of Arizona, and consists of extremely diverse terrain. Major geologic features include the southwestern part of the Colorado Plateau, the Grand Canyon, the San Francisco Peaks, and the western reaches of the Mogollon Rim.

This Focus Area includes parts of the Basin and Range physiographic province and the western end of the Colorado Plateau physiographic province. The Basin and Range province extends through the intermountain western United States, and is characterized by landforms of long, linear mountain ranges separated by long valleys. The Colorado Plateau province consists of relatively horizontal sedimentary formations that have been uplifted and have deeply incised drainages and canyons. The mountainous features of the Basin and Range are evident in the Yavapai County portion of the Focus Area, and the geologic features are the result of extensional tectonic forces, which resulted in normal faulting with downthrown blocks (valleys) and upthrust mountain ranges. In Arizona, the Basin and Range physiographic province bends to a northwest – southeast trend due to the narrowing of the North American continent to the south. These tectonic forces are illustrated by the northwest to southeast trending normal faults that exist in this Focus Area. North of I-40 the terrain reflects the flat mesas of the Colorado Plateau, punctuated by tertiary volcanics such as the San Francisco Peaks.

Geologically, the Mogollon Rim provides a rough boundary between the two physiographic provinces. Above the rim, the flat mesas of generally Mesozoic sedimentary rocks can form imposing buttes and dramatic valleys. The Grand Canyon is the best manifestation of the geologic forces at play in the Colorado Plateau. Thousands of vertical feet of sedimentary rock is visible in the canyon, and provides an "open book" of approximately 1.5 billion years of geologic time. Below the rim, Oak Creek and other tributaries form the Verde River Valley, which is bounded to the south by the Black Hills. This region is punctuated by Mesozoic granite uplifts, tertiary volcanic basalt flows, and colorful sedimentary rock units. The sedimentary units vary in age depending upon the location – some are older deposits that were deformed by uplift or metamorphism, while others were more recently deposited by erosional forces from the uplifted mountain ranges.